IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Roger F. GOLDER

Title: PARTICLE DETECTION

Appl. No.: Unassigned

Filing Date: Herewith

Examiner: Unassigned

Art Unit: Unassigned

PRELIMINARY AMENDMENT UNDER 37 CFR 1.115

Mail Stop PCT
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Prior to examination of the present National Stage Application, Applicant respectfully requests that the application be amended as follows:

Amendments to the Claims are reflected in the listing of claims which begins on page 2 of this document.

Amendments to the Abstract begins on page 4 of this paper, and includes a replacement Abstract at page 6 of this paper.

Remarks/Arguments begin on page 5 of this document.

Please amend the application as follows:

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) Apparatus for ~~characterising~~ characterizing particles, ~~characterised in that~~ wherein the apparatus includes first means for determining the electrical charge on the particles and second means for determining a second characteristic of the particles, and that the apparatus is arranged to provide an indication of the nature of the particles according to the charge and the second characteristic.

2. (Currently Amended) Apparatus according to Claim 1, ~~characterised in that~~ wherein the second characteristic is size.

3. (Currently Amended) Apparatus according to ~~Claim 1 or 2, characterised in that~~ Claim 1, wherein the second means is an optical device.

4. (Currently Amended) Apparatus according to ~~any one of the preceding claims, characterised in that~~ Claim 1, wherein the first means includes a pathway for the particles and a plurality of electrodes spaced along the pathway arranged to provide an electrical output as the particles pass along the pathway.

5. (Currently Amended) Apparatus according to ~~Claim 4, characterised in that~~ Claim 1, wherein the pathway is provided by an electrically insulative tube and that the electrodes are provided on an external surface of the tube.

6. (Currently Amended) Apparatus according to ~~Claim 4 or 5, characterised in that~~ Claim 1, wherein there are five electrodes spaced along the pathway.

7. (Currently Amended) Apparatus according to ~~Claim 6, characterised in that~~ Claim 1, wherein the outermost electrodes are grounded, that the two electrodes adjacent the outermost electrodes are connected together, and that a signal is derived from the difference between the central electrode and the two interconnected electrodes.

8. (Currently Amended) Apparatus according to ~~any one of Claims 5 to 7, characterised in that~~ Claim 1, wherein the tube has an internal diameter of substantially 0.5mm.

9. (Currently Amended) Apparatus according to ~~any one Claims 5 to 8, characterised in that~~ Claim 1, wherein the apparatus includes means preventing particles greater than about 10μm entering the tube.

10. (Currently Amended) A method of ~~characterising~~ characterizing particles, ~~characterised in that~~ wherein the method includes the steps of measuring charge on the particles, measuring a second characteristic of the particles and providing an output indicative of the nature of the particles from the charge and the second characteristic.

11. (Currently Amended) A method according to Claim 10, ~~characterised in that~~ wherein the second characteristic is size.

12. (Currently Amended) Apparatus for measuring the charge on a particle, ~~characterised in that~~ wherein the apparatus includes a tube along which the particle is arranged to flow, first and second outer electrodes towards opposite ends of the tube, third and fourth electrodes adjacent the first and second electrodes respectively, a fifth electrode between the third and fourth electrodes, a connection connecting the first and second electrodes to ground, a connection connecting the third and fourth electrodes with one another and to measuring means, and a connection connecting the fifth electrode to the measuring means, and that the measuring means is arranged to subtract the signals on the third and fourth electrodes from the fifth electrode to derive a signal indicative of the charge on the particle.